

THE
PSYCHOLOGICAL BULLETIN

PSYCHOLOGICAL PROGRESS IN 1907.

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Judged within the close range of its dying hours, the year 1907 does not seem to be conspicuous in the annual achievements of psychology. Sketching its story is a task not unlike that ancient one of making bricks without straw. Activity there has been in research and discussion, and in bringing to completion important projects already known. But no new methods have come in to modify the technique. No new principles have been announced that would change the fundamental points of view of the science. It may even be chronicled that this psychological year has been marked by an absence of general tendencies which have been so noticeable in the onward movement among its predecessors. The angle of individual straws has shown the winds to have been blowing in all directions. This may in part be incidental to the marked falling off in the literary undertakings so characteristic of the science a decade or so ago when the great series of treatises were appearing in America, England, France and Germany.

That modern psychology is still an unsettled science is to be seen in the continued debate as to its real nature and the assumptions upon which its constructive activities are to be based. In his last work,¹ in which he sang his swan song, Möbius reveals, as he thinks, the utter hopelessness of psychology in its struggle to become a science. The only basis of science is the physical. The mental life, made up of thoughts and feelings, is different from nature. The difficulties confronting psychology as a 'physical' explanation of experience are to be removed by a recognition of the central importance of metaphysics and the need for positing the existence of souls in every physical and biological unit. In other words, psychology as a science must yield

Die Hoffnungslosigkeit aller Psychologie, 1907.

to panpsychism. As much as to say that psychology is not 'hopeless,' Miss Calkins raises the query: Psychology: 'What is It about?'¹ In her partially published answer, the double demand is made that metaphysics shall be eliminated from psychology, and that the psychologist shall admit into his thinking the every-day distinction between the psychical and the physical. The advance of psychology is checked partly 'through the common failure to recognize explicitly the real subject-matter of the science and through the underestimate of adequate description' of consciousness. In reasserting that psychology is not a science of consciousness viewed as a biological function, but of 'the functioner,' provision is made for the place of 'the conscious self' as the subject-matter. Stumpf has newly declared that the science is dealing with both mental contents and with mental functions.² In a still more hopeful manner, Kirkpatrick would enrich the science's vocabulary while suggesting its need of a broader basis.³ "Our ideas of a functional psychology must be developed and broadened to include unconscious functioning." He offers the new term 'organosis,' which, including the meanings of neurosis and psychosis, is 'to signify the adaptive functioning of any organism or organ without reference to whether the activity involved is conscious or unconscious, and without reference to whether the organ is nervous or non-nervous.' When the functioning is accompanied by consciousness then psychology may step in as being primarily concerned. The most systematic exposition, if not defense, of the rapidly spreading functional point of view that has yet been made appeared in Angell's presidential address.⁴ One would almost be led to believe that the long observed structural point of view was an abstraction and produced erroneous results. The whole field is parcelled out to the three methods which deal with the psychology of mental operations, mind as mediating between the environment and the needs of the organism, and the significance of the mind-body relationship. Answers to the 'functional' questions of the 'how,' and the 'why' are held to be deeply implicated in the answers to the old 'structural' question of the 'what' of consciousness.

The continued analysis of consciousness to suit the working needs of theoretical and practical psychologists is evident in Pierce's affirma-

¹ *Journ. of Phil., Psych. and Sci. Methods*, December 5, 1907.

² 'Erscheinungen und psychische Functionen,' *Abhandl. d. kgl. preuss. Akad. d. Wiss.*, 1906.

³ 'A Broader Basis for Psychology Necessary,' *Journ. of Phil., Psych. and Sci. Methods*, September 26, 1907.

⁴ 'The Province of Functional Psychology' (before the American Psychological Association, December, 1906), *PSYCH. REV.*, March, 1907.

tive answer to his question,¹ and in Sidis' theory, suggested by certain clinical results.² Pierce regards the phrase 'unconscious cerebration,' much used in the days of Carpenter, as 'necessary' for some explanations. If it means, as he intends, 'cerebration significant for later consciousness, but unaccompanied by present consciousness,' it is supposed to explain such phenomena as mental incubation, suddenly appearing words, and unexpected solutions of problems. To meet, as supposed, the explanatory requirements of clinical psychiatry, Sidis distinguishes the 'hypnoidal' states of consciousness, which lie between the waking and the sleeping states. On this basis is advanced the theory of 'recurrent psychomotor states,' which, having become dissociated, are responsible for phobia, obsessions, etc., because of accumulated nerve energy insufficiently balanced.

Probably the most conspicuous single achievement in the period under review is the 'series of text-books designed to introduce the student to the methods and principles of scientific psychology' by Judd.³ It combines the virtues of constructive psychological theory with the assured technique of experimentation. Produced in the laboratory and designed to contribute to the advance of laboratory instruction, it is probably the best available concrete index to the view that experimental psychology is never an end in itself, but at best is to be regarded only as a scientific and pedagogical means to the end of promoting final psychological theory. The leading principles underlying the 'General Introduction' are the functional view, the genetic method of treatment, emphasis upon the physiological conditions, and the significance of ideation as a unique and final stage of evolution, as stated by the author. In reminding the psychologist that it is his duty not to 'ignore the unique reality of consciousness,' in presenting a new five-fold analysis of consciousness to supersede the old three-fold and two-fold classifications of mental processes, and especially in reinstating the concept of self into the fundamental graces of the science, those principles have gone far in arighting many recent tangential tendencies into the direction of the permanent development of psychology.

Some progress has been made in throwing light upon the obscure region of the neural conditions of consciousness. The long-since rec-

¹"Should we retain the expression 'Unconscious Cerebration' to designate certain processes connected with the mental life?" *Journ. of Phil., Psych. and Sci. Methods*, November 8, 1906.

²'Studies in Psychopathology,' *Boston Med. and Surg. Journ.*, 1907.

³*Psychology: General Introduction*, Vol. I., 1907; *Laboratory Manual of Psychology*, Vol. II., 1907; *Laboratory Equipment for Psychological Experiments*, Vol. III., 1907.

ognized need of more patient investigation and more conclusive thinking about the physiological factors in experience seems at last to be receiving some marked degree of satisfaction. That physiology has immediate significance for psychology has been shown anew by Sherrington, who also contends that 'the main interest of biology must ultimately turn around the cerebrum,' the portion which has acquired dominance over the rest of the nervous system.¹ Campbell has accomplished a much-needed work in presenting the chief histological features of the entire cortex 'millimeter by millimeter.'² Unwilling 'to accept the hypothesis of attention or inhibition as accounting for all the facts which have been gathered relative to the frontal areas, Franz has shown, by experiments on cats and monkeys which had learned certain habits and associations before the operations, that 'the frontal lobes are concerned in normal and daily associational processes and that through them we are enabled to form habits, and, in general, to learn.'³ A most interesting, if not startling, discussion on the cerebral localization of speech has been precipitated by Marie in his 'revision of the aphasia question.'⁴ For nearly half a century the cortical region of the left frontal inferior convolution has been associated with the function of speech. The cortical geography, based mainly on the disorders of speech, assumed special centers for audition, vision and motor images, and sensory and motor aphasia were accordingly analyzed and explained. Marie's denial of the existence of these centers and rejection of these analyses threatens to overturn these ancient functional landmarks. 'Intrinsic' aphasia he regards as due to a 'defect of comprehension and of intellectual elaboration,' dependent in some way upon lesions in the Wernicke zone. In ending his series of studies, McDougall concludes with the theory that the basal conditions of attention are cerebral. While questioning the adequacy of a physiological theory of attention—a mental state which calls for a convergence of energy from many, or all, parts of the brain—he allows the possibility of a 'psychical guidance of physical processes.'⁵

¹ *The Integrative Action of the Nervous System* (Silliman Memorial Lectures at Yale University, 1904), 1906.

² *Histological Studies of the Localization of Cerebral Functions*. Cambridge (Engl.).

³ *On the Functions of the Cerebrum: the Frontal Lobes*, Archives of Psychology, No. 2, 1907.

⁴ 'Revision de la Question de l'aphasia. La troisième circonvolution frontale gauche ne joue aucun rôle spécial dans la fonction du langage,' *Semaine Médicale*, May 23, 1906 (and later articles). See Meyer, *PSYCH. BULL.*, June, 1907; Dercum, *Journ. of Nerv. and Ment. Diseases*, November, 1907.

⁵ 'Physiological Factors of the Attention Process,' *Mind*, 1906.

During the earlier years of the history of our laboratories, chief attention was given to experimental attacks upon the sensory half of human experience. This emphasis may in part have been due to the dominance of the analytical or structural point of view, as well as being the line of least resistance for first developments. With the coming of the genetic method and functionalism, there is, an at least coincidental, increased attention given to the experimental investigation of the motor half of conscious processes. Motor complexes are not only regarded as sensory resultants, but are being more and more looked upon as constitutive elements in the organization of consciousness. This naturally brings one nearer the 'practical' phases of daily experiences, and may result in removing the semi-popular objection to psychological experimentation that in view of the ingenuity and assiduity displayed the worth of the results thus far obtained has not been commensurate to the great labors. There has also been in recent years an unusual organization of experimental results in meeting academic as well as scientific demands, as is evidenced by the several laboratory manuals now available. Experimental psychology seems to be on the verge of taking the next most important step which shall lead into the highly desirable 'inter-laboratory coöperation.' The detailed program of the Institute established a year ago by the German Gesellschaft für experimentelle Psychologie, and the opening session of the 1906 meeting of the American Psychological Association, devoted to an effective discussion of 'Organized Coöperation in Standardizing Psychological Tests' are unmistakable evidences that the era of experimental individualism is rapidly passing. The wide range of inquiry that can be taken by a well organized laboratory may be instanced in the twenty-three investigations reported in the second volume of the *Harvard Psychological Studies* (1906).

There need be no marvel if, as in former years, vision both normal and abnormal continues in its dominant attractiveness to experimentalists. In his review of studies on eye-movements, Herberth holds that a law controlling eye-movements cannot be found; but suggests that their significance in the psycho-physical processes of optical perception would offer a better view of the problem.¹ The studies by Judd² and by Carr³ may lead to a modification of the hitherto pre-

¹ 'Ueberblick über die Geschichte und den gegenwärtigen Stand des psychophysiologischen Problems der Augenbewegungen,' *Zt. f. Psych. u. Phys. d. Sinnesorgane, Abt. f. Psych.*, September, 1907.

² 'Eye Movements in Convergence and Divergence,' *PSYCH. REV., Mon. Supp.*, No. 34, 1907.

³ 'Apparent Control of the Position of the Visual Field,' *PSYCH. REV.*, November, 1907; cf. also Carr and Allen, *Ibid.*, July, 1906.

vailing theories of the varying functions of accommodation and convergence in visual perception. In his painstaking report Scripture does not remove from experimental phonetics the unsatisfactory conclusion that sound curves are faithfully reproduced on the gramophone disc.¹ Leuba's suggestion as to the psycho-physical value of the new chemical methods of controlling color stimuli of definite saturation opens up an easy way for securing new determinations of Weber coefficients.²

The higher processes of cognitive consciousness have come in for a measurable share of attention. The recent confusion in the direction of logical and epistemological theories can but be a definite invitation to psychology to enter this region armed with its verifiable methods of analysis. Hoernlé criticises the not uncommon separation of 'image' as psychological from 'meaning' as logical, and holds that 'meaning is inherent in all forms of consciousness.'³ Every idea or image is 'of something.' Levy has shown the limitation of the usual method of studying associational processes. The subject who is expected to express the first word that occurs in response to a given word-stimulus is placed in an artificial attitude, never known in normal daily life where reactions are to words having a purpose or value.⁴ In his attack upon the processes of thinking, Messer advanced the method of approach by closely grading the increasing intricacy of the tests.⁵ 'Meaning' is found to have definite value; and, although visual and motor elements were found to be present as images, yet these were not of decided importance in determining the apprehension of meaning. That underlying agreement may be obscured by an over-insistence upon minor differences — a hindrance to which the psychology of the more complex processes seems prone — is well instanced in Pillsbury's reduction of the current theories of judgment.⁶ Stripping the views that judgment is belief (Brentano), comparison (Marbe), evaluation (Meinong), the ascription of meaning (logic), and meaning ascribed after doubt or conflict (Dewey), of their unimportant features, he discovers that "in the broad outlines

¹ *Researches in Experimental Phonetics: The Study of Speech Curves*, Carnegie Institution, November, 1906.

² *Journ. of Phil., Psych. and Sci. Methods*, March 14, 1907.

³ 'Image, Idea and Meaning,' *Mind*, January, 1907.

⁴ 'Studien über die experimentelle Beeinflussung des Vorstellungsverlaufs,' *Zeitsch. f. Psych.*, 1906.

⁵ 'Experimentell-psychologische Untersuchungen über das Denken,' *Archiv f. d. gesam. Psych.*, 1906.

⁶ 'An Attempt to Harmonize the Current Psychological Theories of Judgment,' *PSYCH. BULL.*, August, 1907.

there is agreement between all the five definitions. In some form or other judgment is the process that an impression undergoes as it enters consciousness, and this interpretation is always due to the attachment of meaning."

The close approach of pragmatism towards psychology compels a modification of the spirit of our former surveys in which we have deliberately kept from straying into the wider fields of current philosophical interests. Recent reconstructions in logic seem to have been largely responsible for the appearance of pragmatism. The eager hope entertained in many quarters that pragmatism was about to organize itself into a believable system has not been encouraged by the results in England, Italy and America, where the invasion has been most marked. When Schiller contends that pragmatism is but the conscious application of a teleological psychology to epistemology, or, is only an account of human knowing, and knowing is always part of a process which sooner or later issues in action, one cannot help surmising that a change of front has taken place.¹ It is rather noteworthy that it is the philosophers, and not the psychologists, as a rule, who have entered the critical lists either for or against pragmatism. One's disappointment with this assiduously prosecuted new tendency is keen when James, who has been our psychological Moses so long, carries the systematization no farther than to leave it 'a mere mode of approach,' and continues the whole movement a mere program for the future.² Papini is more drastic. To him 'pragmatism is really less a philosophy, than a method of doing without philosophy.' "A great many do not yet perceive that there is no such thing as pragmatism, but that there are only pragmatic theories and thinkers who are more or less pragmatic."³ The counteraction against pragmatism offered by the newly extended application of the genetic method by Baldwin in *Thought and Things*, the character of which was noted with the appearance of the first volume a year ago, is unmistakably indicated in its further development of which glimpses have been offered during this year.⁴ It appears in the declaration that the genetic problems of truth will find their solution depending "on these fundamental positions: (1) that truth is a system of objective

¹ *Studies in Humanism*, 1907.

² *Pragmatism, a new Name for some old Ways of Thinking: Popular Lectures on Philosophy*, 1907.

³ *Introduzione al pragmatismo*, 'Leonardo', Feb., 1907 (tr. in *Pop. Sci. Mo.*, October, 1907).

⁴ 'Thought and Language,' 'On Truth,' and 'Logical Community and the Difference of Discernibles,' *PSYCH. REV.*, May, July and November, 1907.

contents set up and acknowledged as under a variety of coefficients of control; (2) that this system is socially derived and socially valid, though rendered by acts of individual judgment; (3) that the whole movement issues in a dualism of self-acknowledging and objects-acknowledged, a dualism from which thought as such cannot free itself."¹

The psychology of feeling received an unusual contribution in Ribot's volume on the passions.² This with his *La Psychologie des Sentiments* (1896) and his *La Logique des Sentiments* (1905) constitutes one of the few trilogies in psychological literature, and gives us probably the most exhaustive treatment of what for a long time has been a neglected and backward section of the science. In distinguishing between emotion as brief and unstable, and passion as prolonged and fixed, Ribot revives an older conception of passion which has been somewhat lost sight of in recent years. Passion is intellectually different from emotion, marked by the predominance of a controlling idea, whence it derives its fixity. This elaboration of an effective theory stands in notable contrast with the present practice of studying particular forms of feeling. In experimental investigations, it seems to be not an easy matter to get away from some sort of a test of the James-Lange theory or the Wundt-Lehmann tridimensional analysis. Shepard, for example, finds that the latter theory has no foundation in organic reactions.³ In giving his clear statement of 'the discordant situation in the psychology of feeling,' Johnston has possibly also given the reason why studies on affection continue to occur with least frequency in the labors to advance the science.⁴ In his analysis of the complex state of religious consciousness, Pratt finds the chief foundation of faith to be an inner emotional experience.⁵ Belief is of three kinds: credulity, intellectual belief, and emotional belief. To each kind there corresponds a characteristic religion. In dealing with the returns of his questionnaire, the effort is to offer a psychological support to such a general view of the religious consciousness as was held, for example, by Schleiermacher.

New problems in individual psychology were suggested in James' presidential address before the American Philosophical Association.⁶ He contends that there is more of man than ordinary experimental

¹ 'On Truth,' p. 287.

² *Essai sur les passions*, 1907.

³ 'Organic Changes and Feeling,' *Amer. Journ. of Psych.*, October, 1906.

⁴ 'Feeling Analysis and Experimentation,' *Journ. of Phil., Psych. and Sci. Methods*, April, 1907.

⁵ *The Psychology of Religious Belief*, 1907.

⁶ 'The Energies of Men,' *Philosophical Review*, January, 1907.

psychology reveals. In view of the fact that men constantly live inside their limits of power, it is proposed that new measurements of energy or will power be made in order to build up the practical pathway whereby men may live on higher levels. The practical recipe of DuBois, the recent translation of whose work may entitle it to mention in this connection, bears marked similarity to the program suggested by James.¹ This disciple of the school of Nancy supports the thesis that 'nervousness is a disease preëminently psychic, and psychic disease requires psychic treatment.' The treatment details accordingly an appeal to the subject's reason, gaining self-mastery, and getting command of one's resources.

In addition to some tendencies in the domain of abnormal psychology already mentioned, there is further evidence of some progressive clearing of this obscure ground. Dreyfus, following the statistical method based on some eighty cases, has conclusively changed some of the divisions in psychiatry fixed by Kraepelin.² Melancholia, instead of being, as formerly held, a 'disease entity,' is shown to belong to the manic-depressive group of psychoses. The International 'Symposium on the Subconscious' has crystallized the credos of Münsterberg, Ribot, Jastrow, Janet and Prince, and given us their analyses of the fundamental problems involved.³ Of the five contributors, but one is a confessed believer in the subconscious as a factor in experience; and the majority seem to agree in regarding the subconscious as a product of interpretation and not as an object of observation, and accordingly favor a physiological rather than a psychological explanation of subliminal phenomena.

Comparative psychology is showing signs of increasing healthfulness as a branch of scientific enterprise. It has already made a wide departure from the old-time observation of the naturalist, and is growing more and more insistent upon facts secured from controlled situations. While passing through the elementary stage of determining the sensory and motor elements in the mental life of animals, this branch of psychology is happily young and plastic enough to reap all benefit from the development of functionalism. The publication of the first volume in the 'Animal Behavior Series' by Yerkes, and Watson's call for a new journal to be devoted to comparative psychology⁴ are unmistakable evidences of the rapid development in this field. The

¹ *The Psychic Treatment of Nervous Disorders*, Engl. tr., 1906.

² *Die Melancholie: ein Zustandsbild des manisch-depressiven Irreseins*, 1907.

³ *Journal of Abnormal Psychology*, April-June, 1907.

⁴ *The Dancing Mouse*, 1907.

⁵ *PSYCHOLOGICAL BULLETIN*, 1907, p. 288.

latter, employing vivisectional methods has repeated and confirmed the admirable work of Small on the acquisition of the maze habit by the white rat.¹ In this definite contribution to the problems and methods, the negative results, showing that visual, auditory, olfactory and cutaneous sensations play no function in the maze behaviors, forces the conclusion that 'the kinæsthetic sensations coupled with the organic probably, and possibly with the static' furnish the guidance necessary. We may ere long be forced to a complete revision of our conceptions of 'mind' as applied to the lower animals.

Some slight modifications in the general classifications adopted by *The Psychological Index* for 1906 do not effect its gross quantitative showing of the fluctuation of interests as compared with the preceding year summarized in the following table.

1905.		1906.	
No. of Titles.	Rubric.	No. of Titles.	Rubric.
482	Higher manifestations of mind.	600	Sleep, trance and pathology.
477	Sleep, trance and pathology.	572	Genetic, individual and social psychology.
473	Genetic, individual and social psychology.	518	Philosophical implications of psychology.
428	Sensation.	383	Sensation.
270	Anatomy and physiology of the nervous system.	344	Anatomy and physiology of the nervous system.
228	General.	275	General.
135	Conation and movement.	163	Conation and movement.
128	Cognition.	158	Cognition.
67	Characters of consciousness.	69	Conditions and relations of consciousness.
39	Affection.	63	Affection.
2,727		3,145	

This classified productiveness shows more than fifteen per cent. increase over that of 1905, but a total that is still less than that of 1904. All the different fields, except sensation, have notable increases. The last five rubrics retain the rank they have held the past three years.

Psychology continues to hold its own as a leading research science in American universities.² It occupies the same rank as that of last year, being third in the class of physics and zoölogy. In 1907 ten doctor's degrees were conferred in psychology, being slightly less than the average number during each of the past ten years which is 13.4.

¹ 'Kinæsthetic and Organic Sensations: Their Rôle in the Reactions of the White Rat in the Maze,' *PSYCH. REV.*, *Mon. Supp.*, No. 33, 1907.

² 'Doctorates Conferred by American Universities in 1907,' *Science*, August 30, 1907, p. 276.

Progress in the application of the 'clinical' method now fostered at the University of Pennsylvania and Harvard University may encourage the hope of seeing greater socio-economic values placed upon the science in American community life.

The geographical and qualitative expansion of the interests of psychology have been furthered by the establishment of new channels for periodical literature. The supplementary series of special issues conducted by the PSYCHOLOGICAL REVIEW is to be enlarged by the addition of a series of *Philosophical Monographs*, edited by Baldwin. *The Psychological Clinic*, edited by Witmer, in connection with the psychological laboratory of the University of Pennsylvania, is timely evidence that the science is conscious of the practical need of getting into closer touch with everyday life. This journal is born of the 'impulse to seek to establish a comparative psychology, more particularly a child psychology, upon a secure foundation,' and will be the organ of the 'clinical' method. The *Clinic* and the movement behind it may ere long give us the expert practical psychologist, that ideal officer in our educational system desiderated by Royce some years ago. The new *Zeitschrift für Religionspsychologie, Grenzfragen der Theologie und Medicine*, edited by Bresler and Vorbrodt, is to follow the program of the psychology of religion, the anomalies of religion and the development of religion by the 'psychagogics' of practical theology. Psychology is to receive some literary credit in the newly announced *Revue Générale des Sciences Psychiques* and *Rivista di Scienza*. The latter is designed to promote a scientific synthesis, in which psychology is to share with eight other sciences.

In the deaths of Professor C. E. Garman, of Amherst College, Dr. P. J. Möbius, of Leipzig, and M. N. Vaschide, of the Laboratory of Pathological Psychology of the University of Paris, the science lost this year the notable services of a constructive teacher, of a brilliant writer, and of an industrious investigator.

• PSYCHOLOGICAL LITERATURE.

MENTAL FUNCTIONS.

Erscheinungen und psychische Funktionen. C. STUMPF. Repr. fr. 'Abhandl. d. Preuss. Akad. d. Wissenschaften,' 1906. Berlin, 1907. Pp. 40.

In this paper Professor Stumpf offers a complete analysis and classification of consciousness, the 'immediately given' (pp. 6 ff., 28 ff.),¹ into (a) phenomena (*Erscheinungen*), (b) psychic functions, (c) relations, and (d) forms (*Gebilde*). These terms he defines with care. By (a) phenomena Stumpf means sensational contents, whether peripherally or centrally excited (p. 4). By (b) psychic functions he does not mean functions in the teleological-biological sense of contemporary psychologists (p. 5); he refers, rather (p. 4), to 'acts, conditions, experiences (*Akte, Zustände, Erlebnisse*)'² of which he enumerates (p. 16 ff.), perception, or perceiving, consciousness of relation, or thinking, combining (*Zusammenfassen*), judging, emotion, and will. (c) Of relations he distinguishes three sorts: Relations of phenomena with each other, relations of functions with each other, and relations between phenomena and functions (p. 7). (d) He describes forms as the 'necessary correlate' and the 'content' of the intellectual and of the emotional functions. He instances 'conceptions,' 'judgments,' and 'values.'

The paper is largely occupied, as its title suggests, in urging that phenomena and psychic functions, as thus defined, vary independently of each other, and that consciousness cannot, therefore, be described exclusively in terms either of phenomena or of functions. This emphasis on phenomena and on functions should not, however, obscure for the reader the significant teaching about forms and relations. Critics will differ in their estimate of Stumpf's arguments (pp. 16-28 and 34-37 *passim*) in support of this conviction that phenomena and functions may vary independently of each other. With characteristic candor, he himself points out that these arguments establish the probability, not the certainty, of his conclusion; but even without them, as he rightly maintains, our direct consciousness of the psychic function establishes the fact of its occurrence. Detailed consideration of the arguments for

¹ References are to the pages of the reprint.

² I do not understand how the term *Zustand* can rightly be used as synonym of *Akte* and *Erlebnisse* with their implication of activity.

this independent variability of function and phenomenon may therefore without disadvantage be omitted in favor of a more general comment on Stumpf's account of consciousness as a whole.

In the opinion of the present writer Stumpf is entirely correct in his main contention (p. 38) that our consciousness as immediately given is not reducible to purely sensational terms. More than this, he is justified in insisting that we are immediately conscious not only of perceiving, thinking, feeling and willing—in his terms, of psychic functions—but also of relations and of forms. And, finally, as readers of Stumpf do not need to be told, his descriptions of psychic experiences are throughout illuminating—full of keen analysis and of fine discrimination.

The deficiencies of Stumpf's analysis are, however, no less evident than its merits, and they demand more extended treatment. In the first place, from the standpoint of his own statements, it seems clear that phenomena (sensational contents), relations, and forms should be classed together under some such heading as 'contents of consciousness,' and should then be contrasted with psychic functions. Stumpf's objection to this procedure arises from his conviction, apparently a form of metaphysical realism, that phenomena as distinguished from functions have a certain objectivity and independence (cf. pp. 11-14, 36). But the arguments which he employs (p. 32) to show that the judgment and the notion are not to be conceived independently of psychic function would tell as strongly, *mutatis mutandis*, against the doctrine that the sensational content is independent of the function of perception. In other words, Stumpf is inconsistent in refusing to admit (p. 11 ff.) that the sense-content implies the psychic function while at the same time he insists (p. 32) that forms and relations are correlatives of intellectual and emotional functions.

A second disagreement of the writer with Professor Stumpf concerns his objection (p. 9) to the teaching that the consciousness of self is directly contained in that of the psychic function. The objection is presumably due to the mistaken view that a consciousness of self implies a high stage of psychic development. On the contrary, the conception of the psychic function as essentially the function of a self means only that there is no possible consciousness of 'a perceiving (ein Wahrnehmen),' which is not really a consciousness that I am perceiving; and that similarly the other psychic functions—feeling, willing, and the rest, are inadequately described except as the consciousness, however unemphasized, of a feeling and willing self.¹

¹ Cf. a paper by the writer in *The Journal of Philosophy, Psychology and Scientific Methods*, 1907, IV., pp. 673 ff., where this proposition is defended

The discussion of these criticisms would lead too far afield; and no further comment on this paper can be so useful as the urgent counsel to the reader of this notice to refer to the original.

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CLASSIFICATION OF THE SCIENCES.

Zur Einteilung der Wissenschaften. C. STUMPF. Repr. fr. Abhandl. d. Preuss. Akad. d. Wissenschaften, 1906. Berlin, 1907. Pp. 94.

The conceptions of phenomenon and of psychic function, as outlined in the paper just reviewed, lie at the basis of the classification of the sciences proposed by Stumpf in the second of his contributions to the *Abhandlungen* of the Prussian *Akademie der Wissenschaften*. At the outset, and again in conclusion, he pronounces in favor of a classification based, frankly, on several principles. A division proceeding on strictly logical principles leads, so he holds, to artificial distinctions and to an unnatural subordination of one science to another.

Stumpf's first division is accordingly into the nature sciences, the mental sciences (*Geisteswissenschaften*), and the neutral sciences. This is a classification according to object (*Gegenstand*), and the object of a science is described as a conceptual form (*Gebilde*, p. 6 ff.). Even the individual, Stumpf points out, is described in conceptual terms. Such a conceptual form is, he adds (p. 9), posited as identical for all thinkers. (1) The nature sciences are distinguished, from this — the most fundamental — standpoint, in that their objects are 'the bearers (*Träger*) — ordered in spatial-temporal relations — of regular changes, inferred from phenomena.' An emphasized feature of this conception (p. 13 ff.) is the teaching that mere phenomena are not the objects of the nature sciences. Color and the other specific qualities, and even sensible space, do not belong to the world of the physicist, who deals rather with purely mathematical formulæ and with their hypothesized 'bearers,' namely, 'a world of things existing independently of consciousness but related within itself according to causal laws.' (2) The objects of the mental sciences are the psychic functions as objects of thought, and their subjects, or 'bearers.' The main distinction within this second group of sciences is that between psychology, the science of the elemental psychic function with greater vigor. Cf. Stumpf's paper 'Zur Einteilung der Wissenschaften' for implicit admission of this doctrine by the teaching that psychology may discuss the 'subject' of the function.

tions, and the sciences of the more complex social functions, for example, sociology and the science of religion. (3) Under the head of 'neutral sciences,' Stumpf next proceeds to define, on the one hand, metaphysics (the science of the connection of all objects, especially with reference to the criterion of reality, p. 42 ff.), and on the other hand, a group of allied sciences usually treated as aspects of either or both the nature sciences and the psychic sciences. These are (1) 'phenomenology,' or the science of phenomena—and, under this head, Stumpf would study all the sensible qualities, color, sound, warmth, and the like (p. 26 ff.), and (2) eidology, or the investigation of 'forms'—and here would fall the investigation, on the one hand, of logical concepts, and, on the other hand, of 'values' (p. 32); and finally (3) the study of relations.

It will be observed that Stumpf, although disclaiming a division on a single principle, has really brought all save two of the sciences under the headings of this division on the basis of conceptual object. These two, which he does not include in this classification, are, in the first place, history, which he describes as dealing primarily with individual and with fact, as opposed to law (p. 47 ff.); and, second, mathematics, defined (in one of the most valuable sections of the paper), as the science of the 'homogeneous' form conceptually gained, through abstractions and definitions, from the phenomenal (p. 76, adapted). As thus defined, history is really, on Stumpf's principles, a mental science, and mathematics a branch of eidology; but Stumpf holds that this subordination minimizes the actual importance of these sciences and therefore, as has just been stated, he regards each as *sui generis*. Similarly, he distinguishes ethics, æsthetics, pedagogy, and the like as 'practical' in contrast with 'theoretical' sciences, though he has already referred to them as branches of eidology. And finally, he defines philosophy with express intent to include within it all the sciences of the traditional faculty of philosophy.

This inadequate summary of a paper rich in suggestion has left many of its important features untouched. Mention must be made of the enumeration (p. 38) of the problems of the doctrine of relations; of the careful distinction (p. 81) of the *a priori* from the innate; and, most significant of all, of the very valuable discussion (p. 49 ff. and 80 ff.) of logical necessity. As I understand him, Stumpf conceives of logical necessity as the connectedness of concepts, learned with immediate assurance, by analytic attention; and he contrasts it with 'real necessity,' the connectedness of phenomena learned with assurance through repeated experience.

An obvious criticism of Stumpf's classification has already been indicated. It is, after all, more logical than he is willing to admit, for all his sciences are, in the end, classified according to object. The most unessential of his main classes is that of the neutral sciences, since he attempts to coördinate phenomenology neither with eidology nor with the doctrine of relations — and still less with metaphysics. Indeed, he does not, in the opinion of the present writer, make good his exclusion of phenomenology from psychology. The other criticisms to be made concern Stumpf's fundamental teachings rather than this specific problem of the classification of the sciences: (1) The realism, prominent especially in his definition of the nature sciences, is nowhere argued, but is merely asserted, and is virtually yielded both by the admission that the world, supposed to be independent of consciousness, is an object of thought (*ein Gedachtes*), and by the conception of the object-independent-of-consciousness as in spatial and temporal relations. For 'spatial' and 'temporal,' as Stumpf has abundantly shown, are terms with a purely phenomenal significance and cannot be turned into extra-mental relations by an arbitrary act of hypothesis. Incidentally, it may be noted that the conception of 'bearer (*Träger*)' when it is not conceived as self, has no more validity — spite of Stumpf's disclaimer — than Locke's substance, an 'I know not what.' (2) In the second place, Stumpf's repeated assertions that psychology deals not only with psychic functions but with the subjects of these functions serves as a needed correction of Stumpf's own teaching in that it virtually identifies *Funktionspsychologie* with *Ichpsychologie*. For the subject of the psychic function can be none other than the conscious self, or I.

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EDUCATION.

Motives, Ideals, and Values in Education. WILLIAM ESTABROOK
CHANCELLOR. Boston, Houghton, Mifflin & Co.

One would hardly expect the author of a series of arithmetics, and a volume like *Our Schools*, to produce such a book as the *Motives, Ideals, and Values*, which keeps as far away from the concrete work of teaching as it is possible to get. The book is really a philosophical and ethical reflection upon the fundamental bases of life, society, and education. Hardly anywhere throughout the entire five hundred closely printed pages is there a suggestion even of the practical interests and activities of the author; and it is difficult to conceive how

it could have been written amid the distractions and under the pressure of a superintendent's office. The topics chosen for discussion, the point of view taken in treating them, the extraordinary quality of the style, the absence of current and conventional educational terms and phrases — all make this volume an exceptional one in educational literature.

Chancellor devotes himself principally to a study of civilization — its nature, its institutions, its tendency toward degeneracy under urban conditions, the requisites for a stable and progressive civilization, and so on. For his principles he draws upon a large group of sciences — upon history, psychology, physiology, anthropology, social science, theology, mental development, pathology, biology, logic, ethics, æsthetics, philology, and education in its history, theory, and practice. The present reviewer cannot now recall any other educational writer, past or present, except Hall, who draws his data from so many and diverse sources. He has apparently read the best in a great variety of fields, and has assimilated it sufficiently for his purposes. If the author declared it as his aim to expound a science of educational ideals and values, one might complain that he has not presented the views of his authorities with sufficient accuracy, definiteness, and precision, and has not shown how their conceptions bear upon educational theory and practice; but obviously it has not been his intention to be scientific, or pedagogic in a strict sense. His book is ethical and aspirational; it achieves its end by deeply stirring the emotions, rather than by appealing strongly to the intellect in the effort to establish a system of scientific principles relating to education. The style of the book is not well adapted to scientific exposition; it is better suited to convey the feelings and reflections of the poet and moralist and humanitarian. The Bible and the poets of western civilization especially are quoted very freely, and the quotations seem entirely in harmony with the spirit and method of the text.

The author's *Our Schools* is a book for the practical, working teacher; its suggestions fit in with the dynamic life of the schoolman in action. But this later book is for the leisure hour, the hour of meditation, when thought may free itself from immediate problems, and roam unhindered over vast domains of human interest, activity, and achievement. While it is essentially dynamic, it is nevertheless so far removed from the concrete and actual in teaching that it ought not to be regarded as of service in the practical life, except in a very general and subtle way.

I doubt not that the schoolman who comes to this book for edu-

cational facts and principles directly and simply stated will be disappointed. He will feel that principles have been to some extent sacrificed to erudition and literary art. He will be troubled by the frequent occurrence of unusual terms; and he will at once see that the author employs a vocabulary and a rhetorical style which are quite different from the simple and homely forms supposed to be best suited to the needs of the practical life. But for one who prefers literary excellence above simple directness and precision of statement, Mr. Chancellor's book will prove a constant pleasure. He is a master of words in most of the uses to which they can be effectively put. To the present reviewer it appears that the form of expression is well suited to the content to be expressed. There is a largeness, a dignity, a virility about both the thought and the expression which lift the book far above the typical volume on education. And the reader is all the more appreciative when he realizes that the work has been done by a man immersed in the multitudinous details of administering a great system of schools.

It would be altogether out of place to attempt here to estimate the reasonableness of the various positions taken in the book. The reviewer found himself raising questions frequently as he went through the chapters; but in the end it seemed to him that the book was to be judged primarily by the impression which it made as a whole, and not by the scientific validity of its various propositions. Dealing in general conceptions and in ideals as the book does, it is not likely that any reader will endorse without question all that he reads, though I believe that in the large it is in accord with contemporary scientific thought. Of course, when an author devotes himself to depicting what he conceives ought to be instead of describing what is, he cannot expect that those will have the same outlook that he has who have not the same backward view, or who do not place the same values upon the institutions of the immediate present.

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Contribution à la pédagogie de la lecture et de l'écriture. O. DECROLY and M^{lle} J. DEGAND. Archives de Psychologie, VI., 339-353.

The authors report several experiments performed in the *Institut d'Enseignement Spécial* of Brussels, with the purpose of finding a rational method for the teaching of reading and writing to children of defective hearing. It will be seen that the authors have worked along

principles which form part of the well known 'oral' system of instructing the deaf and dumb, successfully applied in this country by Dr. Alexander Graham Bell and others. The results indicate (1) the greater efficiency of the sentence method over the word or syllable method in reading and (2) the surprising fact that in the graphic reproduction of the written language, the shorter the duration of the visual stimulus, the quicker and better are the results.

The subject, a boy five and one half years old, is shown different letters of the alphabet, syllables, words referring to sensible objects, and sentences referring to acts, each on a separate card. The investigators explain to him at the same time the meaning of each written image by performing the acts, by pointing out the objects and by articulating the syllables and letters. The child is then required, in being shown the cards, to interpret what he sees by making the proper motor response. A similar method is followed in the experiments on writing. Here the child is required to describe, by means of graphic language, the acts and the objects which he sees, or to reproduce simply written sentences which are shown to him. In the following figures are summed up the results of the various tests.

	Percentage of Retention.
Letters,	47.6
Syllables,	52.3
Words,	68.1
Sentences,	90.7

This refers to reading. As for writing, "we realized," say the authors, "that it was better to let him examine the sentence to be written only during a very short time. We showed the child, during 30, 10, 5, 2 and 1 seconds, cards on which different sentences were written." The sentence *la boule balance* was successfully reproduced after it had been shown 6 different times and during 10 seconds each time. Total, 60 seconds. The sentence *la boîte roule* did not require more than 5 presentations of 5 seconds each. Total, 25 seconds. This amount was still lowered in the case of the sentence *le papier glisse*, for the correct reproduction of which 4 repetitions of 2 seconds each were sufficient. Total, 8 seconds. The authors say nothing as to the anomaly, at least apparent, of these results which flatly disagree with all known facts regarding the relation between retention, on the one hand, and duration of the stimulus on the other. It would be highly interesting, both psychologically and pedagogically, to clear up this important point by performing similar experiments on large groups of pupils.

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MEMORY.

The Initial Tendency in Ideal Revival. FELIX ARNOLD. Amer. J. of Psychol., 1907, XVIII., 239-252.

This article treats of certain characteristic tendencies of the memory process on the basis of association tests made by the author with school boys.

Arnold's tests were carried on with about forty boys in the sixth year in school. A poem was used which they had memorized for school purposes. No emphasis was laid on rhythm. A portion was selected for each test. The boys were told that when one word of the poem was spoken they were to write down at once the first words which occurred to them from that part of the poem which had been selected. The results were classified under three heads:

1. Certain cases in which there was what the author calls a 'fromward' tendency — *i. e.*, the tendency to recall the poem beginning with the cue word and going forward.

2. The 'initial' tendency — *i. e.*, the tendency when a word is presented to go back to the beginning of the whole section of the poem to which the cue belongs and to revive from the first the complete section.

3. Blank — where no words were immediately recalled.

Nine tests were taken lasting through several months. Out of 1,917 trials there were 705 cases of 'initial' tendency; 1,182 cases of 'fromward' tendency, and 30 blanks.

In discussing the results Arnold reviews briefly the views of Hartley and Herbart as representing the atomistic conception of the Associationists; and of Ebbinghaus, Müller and Schumann and Müller and Pilzecker representing the more recent investigations of memory processes. Arnold points out that especially the 'initial' tendency disproves any atomistic conception of stored, discrete units. Nor can such a tendency be explained by mediate suggestion as might the cases showing the 'fromward' tendency. The cases of 'initial' tendency, the author believes, can be explained only by considering any given moment of consciousness to be a '*disposition*' containing 'a meaning and a tendency to explicate the series implicit in it.' Any given word from a group formally learned revives this total '*disposition*.' Indeed the presence of the 'fromward' tendency points in the same direction. In this case the whole series is also involved.

Arnold found that the boys who had most thoroughly learned the selection had the greatest 'initial' tendency. This he thinks affords another proof of his theory, for in such cases there would be a better organized disposition. Arnold mentions certain 'initial' tendencies

found in children who are learning processes. When any mistake occurs the tendency is to rub out the whole of a drawing; to pull down the whole block-house; to begin all over in reading. These show, he thinks, that serial unity has been destroyed, so the whole series has to be gone through *in toto* before any meaning will result for the child. These 'initial' tendencies in children, Arnold thinks, should be encouraged.

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Memory for Lifted Weights. E. A. HAYDEN. Amer. J. of Psychol., 1906, XVII., 497-521.

The object of this investigation was to 'study the influence of the interval upon the accuracy and quickness of recognition,' and to 'determine the mental processes involved in comparison and recognition.' Eight Jastrow weights ranging from 20 to 600 gms. were used. The experiment consisted in requiring the subjects to lift two weights chosen in irregular order, and to judge whether the second was equal to, heavier or lighter than the first. The reaction time of the judgment was recorded. Eight standard time-intervals ranging from 20 to 120 seconds were interspersed between the lifting of the first and the second weight.

The results obtained from five observers show that the 'interval of 40 to 60 seconds seems the most favorable for the judgments, so far as this is indicated by maximum percentage of right cases, minimum length of reaction time and mean variation.' In most of the judgments the weights compared were placed at definite positions in a scale of values. The memory image of the first weight usually disappeared when the lifting of the second weight began, and apparently it played a rather insignificant part in the judging process.

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PSYCHOLOGY OF PREJUDICE.

The Psychology of Prejudice. JOSIAH MORSE. Int. J. of Ethics, 1907, XVII., 490-506.

The writer of this article prefaces his remarks by the statement that in the rapid progress made in psychology in the recent years practically nothing has been written upon the most common everyday mental experiences, such as hope, despair, friendship, courage, etc. The reason for these omissions, he states, must be due first, to the common-

ness of the subjects; and secondly, because of the time-honored fallacy that 'acquaintance with' is synonymous with 'knowledge about.'

That prejudice is universal and ubiquitous may be difficult to substantiate, but with a little license we might maintain that this psychic flaw runs through the whole warp of the universe, and we have unconsciously assumed this whenever we personify nature, and speak of her likes and dislikes, etc. The gods of the various peoples have had their prejudices without number. Indeed, an unbiased god would not be worshiped or prayed to, as he would have no personality, no human attributes, and be as abstract as law or the absolute, which no people have ever truly worshiped. All living things which have individuality and personality are biased by reason of their limitations: which is as true of anthropomorphic gods as of men and the lower animals. Man's inherited tendencies determine what impressions shall be received and what rejected. We recreate the universe, each in his own limited imperfect way, and the worlds of no two are exactly alike.

Mr. Morse takes issue with Professor Patrick, who has defined prejudice, in its ordinary signification, as follows: "An individual deviation from the normal beliefs of mankind, taking as the standard, the universal, the general, or the mean." This definition limits prejudice to the intellectual type which, Mr. Morse says, will not hold even within these narrow confines; for, according to this, Socrates, Jesus, Galileo, Bruno, Luther, Darwin, and a host of other reformers were prejudiced, which is manifestly absurd. Prejudice does not consist in deviating from a popular standard, but in an *undue prepossession* in favor of, or against anything, be that what it may. Psychologically speaking, any inordinate reaction of the higher centers to an object is prejudice. The criterion of undue or excessive prepossession is found within the individual himself, in the effect which it has upon his general development in life.

In regard to the psychological meaning of prepossession, issue is again taken with Professor Patrick, who says in substance that prejudice is synonymous with apperception. The writer holds that prejudice is not apperception but rather an arrest of it. So long as the apperceptive process is allowed to function normally there is no danger of becoming prejudiced. It is only when this process is arrested or interfered with, that the danger arises. Prepossession means disordered apperception. The unduly prepossessed individual either cannot or will not apperceive properly; he apperceives only as suits his purpose, which has been determined by his will and desire.

Here we see clearly the emotional and volitional roots of prejudice — roots which penetrate the whole soil of subconsciousness, vitiating our thinking and determining our attitude to our environment. Were we passionless we might apperceive properly, and be without prejudice, therefore, what is normal in a certain measure, becomes abnormal when that measure is deficient or excessive. Error or evil is located in deficiency or excess. Even excessive virtue is evil, excessive humility being abjectness; courage, rashness, etc.

The confusion of apperception with prejudice is due to a misinterpretation of the fact that the apperception-masses which one has accumulated in his lifetime react partially to a given idea or situation. This may lead to an erroneous view of things, but not necessarily to prejudice. Apperception is instinctive judgment of resemblance between any given object and a similar one. In prejudice, however, the judgment is neither correct nor logical; it is willfully warped, and, as a rule, in spite of one's better reason; not a partial, erroneous judgment, therefore, due to limited experience, but a willful perversion of judgment because of interest and passion — love, hate, anger, jealousy, envy — is prejudice. Also, while in apperception resemblance is the great factor; in prejudice it is difference.

We cannot tell at just what period in life prejudice first shows itself, but a somewhat similar feeling, jealousy, appears very early in the child's life, some having seen manifestations of it in the third month, and many in the twelfth or thirteenth months. Perhaps prejudice appears equally early, but it requires for its existence a rather full development of the will and the emotions, and a larger organization of the intellect.

Speaking of education the writer says that pedagogy must be very careful, in evolving new methods of study, to remember that education is more than instruction and that it is possible to cultivate prejudices instead of removing them. Prejudice, however, is rather a by-product of education than an effect of it.

In conclusion, the writer points out that an idea, because of repetition, association or other circumstances, occasionally acquires more than its share of dynamic energy, and mental activity thus becomes polarized around one or several concepts instead of being properly proportioned among all. In extreme cases among religious fanatics, ascetics and mystics, there is only one pole. Arranging individuals according to a scale of ideas, we would have mono-, bi-, tri-idealist, etc., passing from the extremely prejudiced to the liberal and critical. Mere richness of content in consciousness gives rise to a greater possi-

bility for prejudices to lurk in the mind, — the uncultured adult living in a civilized community has more and stronger prejudices than a savage, — but richness combined with harmony precludes such a possibility.

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LAUGHTER.

Le rire hystérique. JOSÉ INGENIEROS. *Journal de Psychol.*, 1906, III., 501-518.

The author calls attention to the fact that there are several forms of laughter and no one definition can be complete. We may distinguish three factors in laughter, which enter in varying degree and may manifest themselves separately: (a) The mimetic, motor element; (b) the emotional element; (c) the intellectual element, the representative act.

There is also a special pathology affecting each of these elements. Thus hysterical laughter is the convulsion of a group of muscles corresponding to the function of laughter; and laughter accompanying a painful condition, or the irresistible laughter following a trifling cause are cases of the emotional pathology. It seems to me that this is mainly a classification which is probably of value for some clinical purposes, but theoretically is at least insufficient.

Ingenieros criticises both extreme interpretations, the one making hysterical laughter a mere epiphenomenon of the convulsive attack, the other making it the accident itself, a functional tic. He gives a classification with these two main divisions. In the first, the laughter is an epiphenomenon, and shows itself either as (a) aura of the attack, (b) complication, or (c) symptom of the breaking up of the attack. In the second the laughter is an independent accident, and is either (d) the only symptom, (e) a paroxysm alternating with other symptoms, (f) permanent.

The author then gives the history of a case of hysterical laughter of genital origin. The patient suffered from paroxysms of laughter accompanied by loss of consciousness. In the intervals she had some headache and nausea. There was a slight increase of the tendon reflexes, hypæsthetic zones under the right breast and on the right arm, complete anæsthesia of the pharynx, and some narrowing of the field of vision. The central factor in the treatment was by hypnotizing and suggesting hysterogenic zones and inhibiting zones of the attack. It was successful.

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RACE PSYCHOLOGY.

At the Back of the Black Man's Mind. R. E. DENNETT. London, 1906.

The writer believes, after a careful study of the Kongo region, that the native mind, in both political and religious spheres, has developed much more profound conceptions than has been supposed. Older than the fetishism (*Ndongoisism*) usually observed by travellers, and by them imagined to be the sole religion of Africa, exists a much deeper religion and philosophy (*Nkicisim*) which bears about the same relation to fetishism that Buddhist philosophy does to popular Buddhism.

The Bavili mind seems to have thought in a dialectic — shall we call it? — of four terms and six categories. The four terms, or divisions, are abstract cause, male and female causes, and effect. Thus the name for God is *Nzambi*, which means literally, 'the personal essence of the fours.' God thus consists of four parts: "(1) God the abstract idea, the cause, (2 and 3) *Nzambi Mpungu*, God Almighty, the father God who dwells in the heavens and is the guardian of the fire, *Nzambici*, God the essence, the God on earth, the great princess, the mother of all the animals, the one who promises her daughter to the animal who shall bring her the fire from heaven, (4) *Kici*, the mysterious inherent quality in things that causes the Bavili to fear and respect" (p. 167). This dialectic of cause and effect becomes still more complicated into an elaborate formula (p. 167). There are six sacred symbols associated with god (*Nzambi*) on the one hand, and the king (*Maluango*) on the other, viz., sacred groves, lands and rivers, trees, animals, omens, the seasons. Corresponding to these symbols, the king has six titles, and performs six distinct functions of government, assisted by six distinct kinds of subordinates.

Particularly in the study of the groves and the seasons, but to some extent also in the other symbols, the genetic movement in four terms is distinguishable, and all are thought in association with six categories — water, earth, fire, procreation and motion, fruitfulness, life.

The Bavili also have a considerable body of law, covering especially the family, property, contracts, criminal law, and judicial procedure (palavers). They had a judicial system, with the king (*Maluango*) as the court of final appeal.

The advanced philosophical conceptions described were not of course obtained from direct conversation with any of the natives now living, but are the result of a careful investigation of the institutions, traditions, customs, and practices of the people. The justification for

the interpretation rests upon the hypothesis that the present Kongo tribes have degenerated from an era of much higher intelligence and reflection. Some evidence for this view is given, and similar data were derived from an observation of the Bini tribes, with which the writer also sojourned for a considerable time.

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RHYTHM.

Der Rhythmus der römischen Kunstprosa und seine psychologischen Grundlagen. TH. ZIELINSKI. Archiv für die gesamte Psychologie, 1906, VII., 125-142.

The author of this paper has investigated the rhythm forms found at the ends of the periods in Cicero's orations. The total form in question is divided by him into two parts, the base and the cadence, separated by a cesura. The base is usually a cretic (— ∪ —); the cadence consists of either a single trochee, or one and a half, or two whole trochees. If the cadence consists of more than a single trochee, the cretic of the base may be replaced by a molossus (— — —). These five forms may be graphically represented together thus:

— ∪ — ∷ — ∪, —, ∪

The author calls these five forms the *preferred* forms. If any of the long syllables are dissolved into two short ones, we have a *tolerated* form. There are 18 tolerated as compared with 5 preferred forms. All others he calls the *forbidden* forms. These terms are justified by the frequency of the forms of rhythm. The author finds that among 17,902 period endings 60.3 per cent. have the preferred, 26.5 per cent. the tolerated, 13.2 per cent. the forbidden form. Taking into account that the number of divers tolerated forms is 18, that of preferred forms only 5, one may say that each preferred form has, on the average, 12 per cent. representatives, each tolerated form only 1.5 per cent. In order to make sure that this numerical relation is the result of a psychological law, the author has divided the orations into ten chronological groups. In the first of these groups the percentages of preferred and tolerated forms are respectively 52.5 and 27.9; *i. e.*, Cicero's preference of the five preferred forms was then, in his youth, not quite so strong. But in the third group of orations the percentages have already changed to 61.2 and 26.6, which thence remain practically constant. The author points out that Cicero, judging from his own remarks concerning oratory and its rules, was

entirely unconscious of any such law. Among the preferred forms the one consisting of a cretic and a trochee is by far the most common. It is found in 4,184 of the 17,902 cases. The same form but with the first long syllable dissolved is found 436 times; *i. e.*, in about 10 per cent. of the number of the form from which it is derived. The other four forms, similarly derived from the other four preferred forms by dissolution of the first syllable, appear also in about 10 per cent. of the numbers of the forms from which they are derived. These and other regularities prove that the period endings of Cicero's orations are governed by a definite rhythmic law.

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DISCUSSION.

THE EGO AND EMPIRICAL PSYCHOLOGY.¹

In his President's Address, last March, before the Western Philosophical Association, Professor Pillsbury considered what is, in my view, the most fundamentally important of the modern issues of psychology. I wish, therefore, that I more clearly understood the conclusion which he reaches. In the second paragraph, as well as later on in his address, he refers with evident disapproval to upholders of that which he calls the 'self-construction' who, as he thinks, 'abandon logic for emotion.' But in the final paragraph, in which he sums up his own doctrine, we find the following statements: "The self is merely all that we are and know, organized, self-unified, and self-identical, a growing vital unity that as a whole is effective in every experience. . . . It is unity with multiplicity, identity amid difference. . . . It is a principle of explanation, but is immanent, not transcendent, effective, not shadowy. It is . . . something empirically known, nothing mystical or mysterious in its nature or actions." All this is in such perfect accord with the conception of the self as basal fact of psychology that without the testimony of other sections and clauses of the paper one would be tempted to welcome Saul to the band of the prophets—in other words, to count Mr. Pillsbury among those whom he calls 'paper architects of the self.'

The address falls naturally into two parts: a defence of structural psychology in the form of a criticism of self-psychology; and, following on this, a constructive supplementation of structural psychology.

¹'The Ego and Empirical Psychology.' Read as the president's address before the Western Philosophical Association at Chicago University, March 29, 1907. Printed in the *Philosophical Review*, 1907, Vol. XVI, pp. 387-407.

The objections to self-psychology reduce to the following: It does not, in the first place, concern itself with 'the experience immediately given,' but rather 'with what must be assumed as the foundation of the experience' (p. 387). Again, 'sometimes the self-construction is welcomed as a means of avoiding conclusions admitted to be adequate from other premises' (p. 388). And, finally, the conception of a self is irreconcilable with the conception of the 'mental stream' (pp. 388-391).

Two of these criticisms are, I think, founded on misapprehensions. For, first, the self regarded as basal fact of psychology is conceived not as a philosophical or epistemological explanation of experience, but as a concretely and directly experienced fact—a 'what is' and not a mere 'what must be.'¹ And, second, Mr. Pillsbury has certainly missed the meaning of my teaching about will, to which he refers as his only example of the self-psychologist's tendency to cut loose from thought and 'to give way to emotion.' He represents me (p. 388) as 'satisfied of the correctness of the modern conclusion that will is no peculiar aspect of consciousness,' but as holding 'that a self is in some way conscious of a difference that we cannot find.' Mr. Pillsbury does not cite the passage which he takes as foundation for this intended paraphrase of my views, but I think that he refers to one of the closing paragraphs of my address on 'A Reconciliation between Structural and Functional Psychology.'² Here I say that "the modern school of structural psychology rightly, as it seems to me, teaches the impossibility of discovering in experience a peculiar volitional element." I add that this denial 'does violence to the plain outcome of introspection which sharply contrasts will with other sorts of consciousness'; and I conclude that in order adequately to describe will one must supplement the analysis into structural elements by an analysis of will conceived as personal relation. I am sorry that the statement of my partial agreement with the merely structural psychologist has lent itself to misconstruction. I do agree with him that there is no volition-element, in the sense in which there is a sensational element. But, so far from agreeing with

¹ Cf. Ward, 'On the Definition of Psychology,' *British Journal of Psychology*, 1904, I., 23, 25; and Judd, *Psychology. General Introduction*, p. 316: "Our considerations have led us along strictly empirical paths to the recognition of the self." For my own assertions of the immediacy of the consciousness of self, cf. *An Introduction to Psychology*, p. 151 et al.; *Der doppelte Standpunkt in der Psychologie*, p. 34 et al.; and especially 'A Reconciliation between Structural and Functional Psychology,' *PSYCHOLOGICAL REVIEW*, 1906, XIII., 67-68 (with note).

² *PSYCHOLOGICAL REVIEW*, *loc. cit.*, p. 79.

him in the teaching that 'we cannot find' a difference between will and other experiences, I firmly believe that we do find, that is, immediately experience, such a difference. Thus, the contrast between the structuralist's account of will (correct from his point of view) and the actual experience of will is the sufficient evidence of the inadequacy of the structuralist's conception. The argument seems to me to be precisely parallel with that which leads Mr. Pillsbury to undertake his constructive addition to structural psychology.

There remains the objection that the conception of the self is ultimately irreconcilable with that of a mental stream — in other words, with the conception of consciousness as consisting in a series of mental states. This will cheerfully be admitted; but it will be urged, by every self-psychologist, that the conception of a series of mental states is a scientific (if not, indeed, a metaphysical) abstraction — a hypothesis sometimes useful for purposes of description but in no sense a fact of experience. Thus the self-psychologist, assured from introspection that every alleged experience of a mental state is really an experience of oneself being conscious, sees no need of squaring his immediate experience with this abstract conception of the mental stream.

I shall speak more briefly of Professor Pillsbury's positive contribution to the discussion, because I realize that he may have some meaning which I utterly miss. He begins (p. 392, end) by admitting that "the structures ordinarily analyzed out by structural psychology will not explain the functions that we find mind capable of when viewed in the large." He is therefore led to attempt a 'construction on the basis of fact' which shall satisfy 'the real need . . . for unity and identity of mental states' (p. 393). The facts which he adduces are, first (p. 393), that "associations years old, of which there was no trace in the ordinary sense of spontaneous reinstatement, could nevertheless be brought back to consciousness with surprisingly few repetitions"; and, second (p. 394) that these associations "are active in some degree in the control of later mental operations of widely different character. . . . Much emphasis" Mr. Pillsbury adds, in explanation, "has been laid by Külpe and his pupils upon the purpose in mind . . . or upon the task that has been set . . . , in deciding which one of the many possible associates shall be actually effective in the control of the consciousness." His conclusion (p. 395) is that "reasoning, judgment, meaning, and belief go back for their explanation, not to bare physiological association, but to the dynamic controlling force of the entirety of experience." It is thus evident that self,

or mind, is for Mr. Pillsbury synonymous with 'experience as a whole' or with 'the entirety of experience'; and that he conceives this 'whole' as possessed of 'controlling force,' as 'dynamic not static' (p. 397).

At this point the self-psychologist is bound to turn upon Mr. Pillsbury with the retort of the little darky to his accuser: "All of dem t'ings you say I is, you am." If the direct consciousness of self is to be set down as a vague imagining and a paper fabrication, what, pray, is to be said of the conception of consciousness as force? For either this is a mere restatement of the laws of association or else it illicitly implies that force is a sort of mythical entity. In any case, the conception of mind as force demands as its basis an exposition of the meaning of force; and this Mr. Pillsbury nowhere attempts. Besides being vague, this doctrine seems to me inconsistent with Mr. Pillsbury's criticism and ineffective for his purpose. For the conception of mental states as a force (or as forces) is surely inconsistent with the mental-stream hypothesis, which Mr. Pillsbury assumes as established when he is criticising the doctrine of the self. And, in the second place, though a totality is a kind of unity it is not an identity, whereas identity of experience is that which Mr. Pillsbury started out to find.

I venture to point out, by way of conclusion, that Mr. Pillsbury, like many psychologists of his school, enjoys to the full one of the advantages offered him by the conventionality of language. I refer to his recurring use of personal pronouns. For example he says, that "we perceive an object as an object when we attach a meaning to it, and that consists in identifying it with . . . an earlier crystallization from experience. In the same way when we attempt to know our mental states as mental states we . . . refer them to other earlier developed crystallizations of experiences." Would these sentences still retain a meaning if for 'we' one read 'the dynamic entirety of experience'? The truth is, I think, that Professor Pillsbury, like all the rest of us (though without realizing it) 'finds' a self as the reality of which 'mental state,' 'mental structure,' and even 'dynamic force of the entirety of experience' are mere abstractions.

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Vorlesungen zur Einführung in die experimentelle Pädagogik und ihre psychologischen Grundlagen. E. MEUMANN. I. und II. Bande. Leipzig, Engelmann, 1907. Pp. xviii + 555 and viii + 467. M. 7 and 6.

Introduction physiologique à l'étude de la Philosophie ; Conférences sur la physiologie du système nerveux de l'homme. J. GRASSET. Pref. by M. BENOIST. Paris, Alcan, 1908 (for 1907). Pp. xi + 368. 5 fr.

Le troisième Sexe. Les homosexuels de Berlin. M. HIRSCHFELD. Paris, Rousset, 1908. Pp. 103. 2 fr.

Traité pratique d'Hypnotisme et de Suggestion thérapeutique. G. BONNET. 2^e ed. Paris, Rousset, 1907. Pp. 328. 3 fr. 50.

Report of the Commissioner of Education for the Year ending June, 1906. Vol. I. Washington, Gov. Print. Office, 1907. Pp. xlvii + 643.

The Creek Indians of Taskigi Town. F. G. SPECK. Mem. Amer. Anthropol. Ass., II., 2. Lancaster, Pa., New Era Co., 1907. Pp. 164.

Weather Words of Polynesia. W. CHURCHILL. The same. Pp. 99.

NOTES AND NEWS.

A WORK ON *Valuation: its Nature and Laws*, by Professor W. M. Urban, of Trinity College, Hartford, is to be published at once by Swan, Sonnenschein & Co., London, in Professor Muirhead's 'Library of Philosophy.'

THE preliminary announcement of the Third International Congress for Philosophy, to be held at Heidelberg, September 1-5, 1908, has been issued (Windelband, president; Elsenhans, secretary, Heidelberg). The International Congress for the History of Science will be held in connection with that for Philosophy.

THE third annual meeting of the Southern Society for Philosophy and Psychology will be held in Washington, D. C., February 25-27, at the time of the session of the Department of Superintendence of the National Educational Association. The officers of the Southern Society for this meeting are: Professor J. Mark Baldwin (Johns Hopkins), president; Professor Edward A. Pace (Catholic U. of America), vice-president; Professor Edward F. Buchner (Alabama), secretary-treasurer. Messrs. R. P. Halleck, J. M. Sterrett, A. C. Ellis, W. T. Harris, and D. B. Purinton are announced as additional members of the Council.

AT the recent meeting of the American Psychological Association the following officers were elected for the ensuing year: Professor George M. Stratton (Johns Hopkins), president; Professor A. H. Pierce (Smith), secretary. The report of the proceedings at the Chicago meeting will appear in our next issue.

THE following are taken from the press:

DR. CHARLES E. CORY is in charge of the department of philosophy in Washington University, St. Louis, in place of Professor A. O. Lovejoy, who is absent on leave during the year 1907-8.

DR. GEORGE T. LADD, emeritus professor of philosophy in Yale University, has returned from Japan to his home in New Haven.

PROFESSOR E. B. TITCHENER, of Cornell University, has been appointed non-resident lecturer on psychology at Columbia University for the present academic year.

IT is announced that the German railroads have ordered that the vision of their employees must be tested henceforth with the colored plates devised by Professor W. Nagel, of Berlin, in place of the Holmgren yarns.

